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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,329	11/14/2001	Samuel G. Fletcher	T9320.B	3555

20449 7590 02/24/2005

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SANDY, UT 84091

EXAMINER
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MARMOR II, CHARLES ALAN

ART UNIT	PAPER NUMBER
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3736

DATE MAILED: 02/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/991,329

Applicant(s)

FLETCHER, SAMUEL G.

Examiner

Charles A. Marmor, II

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 December 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-33, 125-127 and 129-137 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 125 is/are allowed.
- 6) ☒ Claim(s) 1-27, 29-33, 126, 127, 129-132 and 135-137 is/are rejected.
- 7) ☒ Claim(s) 26, 28, 133 and 134 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 December 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 05212004.
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. This Office Action is responsive to the Amendment filed December 6, 2004. The Examiner acknowledges the amendments to the Drawings; the amendments to the Specification; the amendments to claims 1, 2, 8, 27, 125, 127 and 129; the cancellation of claims 34-124 and 128; and the addition of new claims 130-137. Claims 1-33, 125-127 and 129-137 are pending.

#### ***Drawings***

2. The drawings were received on December 6, 2004. These drawings are acceptable.

#### ***Claim Objections***

3. Claim 26 is objected to because of the following informalities: in line 2, "(C)" should be deleted. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 27, 130 and 131 are rejected under 35 U.S.C. 102(b) as being anticipated by Fletcher (1992). Fletcher teaches a method for providing speech therapy in Chapter 9 that reads on the claims of the instant application. The method includes displaying a model representation

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of a position of contact between a clinician (model) tongue and mouth during speech; displaying a representation of a position of contact between a client's (learner's) tongue and mouth during speech; instructing the learner to mimic the model representation of the position of contact between the model tongue and mouth during speech; comparing the representation of the position of contact between the learner's tongue and mouth during speech with the model representation of position of contact between the model tongue and mouth during speech; generating a numerical score representing the closeness of fit between the representation of position of contact between the learner's tongue and mouth during speech and the model representation of position of contact between the model tongue and mouth during speech; and providing positive reinforcement when the learner mimics the model representation of position of contact between the model tongue and mouth during speech. The position of contact between the learner's tongue and mouth during speech is represented by a grid of dots on the display such that the grid of dots corresponds to sensors disposed on a sensor plate which is custom fitted in the mouth of the learner, where the dots expand and change color corresponding to contact between the learner's tongue and mouth. The reference states in the second full paragraph on page 207 that "standard" or "conventional" palatometric displays do not portray intraoral landmarks such as teeth. However, in the last sentence of this paragraph, Fletcher appears to suggest that dental landmarks can be displayed on the display to help orient the learner orient the position of target contact patterns. The specification of the present application defines palatometric parameters as "measurements which describe the vocal process during speech as measured by an instrument such as a palatometer." Such measurements include the distance between contacted sensors and selected teeth or the dental margin. The Fletcher reference

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discusses such parameter measurements at pages 198-202. The method is capable of being performed with a client (learner) who is at least one of learning to compensate for physical deficiencies; unable to overcome speech disorders through traditional auditory based therapy; has severe to profound hearing loss; has stroke-limited ability to control tongue movement and placement; has limited high frequency sound perception; has reduced ability to build up pressure in the mouth; has physical abnormalities affecting the mouth and vocal tract; has gradually deteriorating hearing loss and needs assistance to maintain speech articulation skills; has limited energy to devote to speech activity; learning new speech patterns after cochlear implant surgery; and learning a speech pattern corresponding to a foreign language or dialect.

6. Claims 1-3, 9-18, 25, 29-33, 126, 127 and 129 are rejected under 35 U.S.C. 102(b) as being anticipated by Hutchins (1992). Hutchins teaches articulation therapy software and a method for use thereof. The method includes displaying a model representation of a position of contact between a model tongue and mouth during speech; displaying a representation of a position of contact between a learner's tongue and mouth during speech; and instructing the learner to mimic the model representation of the position of contact between the model tongue and mouth during speech. The representation of the position of contact between the learner's tongue and mouth during speech is compared with the model representation of position of contact between the model tongue and mouth during speech. As illustrated in Figures 1-4, the relative positions of the model's and learner's lips and teeth during speech are displayed. The recorded position of contact between a learner's tongue and mouth during speech may be replayed in synchronism with the recorded model representation on a split-screen. The method

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further includes providing model acoustic representations of the speech. Sound spectrographic displays are generated from the model acoustic representation and the learner's speech. A dental landmark is displayed on the display to help orient the position of contact between the learner's tongue and mouth. The speech includes sounds, words, phrases or sentences that may be displayed in writing. The position of contact between the learner's tongue and mouth during speech is recorded, as is the learner's speech corresponding to the position of contact between the learner's tongue and mouth. The method is capable of being performed with a client (learner) who is at least one of learning to compensate for physical deficiencies; unable to overcome speech disorders through traditional auditory based therapy; has severe to profound hearing loss; has stroke-limited ability to control tongue movement and placement; and learning a speech pattern corresponding to a foreign language or dialect.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 4-7 and 19-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchins (1992) in view of Fletcher (1992). Hutchins teaches all of the limitations of the claims except that a numerical score or positive reinforcement is provided to the learner and that the learner has limited high frequency sound perception, a reduced ability to build up pressure in the mouth, physical abnormalities affecting the mouth and vocal tract, gradually deteriorating

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hearing loss, limited energy to devote to speech activity, or is learning new speech patterns after cochlear implant surgery. Fletcher teaches that it is advantageous to provide a learner with a numerical score or positive reinforcement in order to encourage the learner to accurately mimic the model representation. It would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to provide a learner with a numerical score or positive reinforcement, as is well known in the art and evident from the Fletcher reference, in order to encourage the learner to accurately mimic the model representation and thereby make improvements in combating a speech disorder. Fletcher further teaches that the learner may have limited high frequency sound perception, a reduced ability to build up pressure in the mouth, physical abnormalities affecting the mouth and vocal tract, gradually deteriorating hearing loss, limited energy to devote to speech activity, or is learning new speech patterns after cochlear implant surgery. However, it would have been obvious to one having ordinary skill in the art that the time Applicant's invention was made that the method of Hutchins could be applied to a learner who has any of these conditions, since the type of learner has negligible impact on the method steps involved in the method.

9. Claims 8 and 135-137 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hutchins (1992) in view of Boon ('299). Hutchins, as discussed hereinabove, teach all of the limitations of the claims, including that a dental landmark (the front teeth) is displayed on a computer screen to assist in orienting contact between the tongue and mouth, except that a learning curve plot is generated in order to illustrate the ability of the learner to mimic the model. It is well known that learning curve plots may be generated automatically by a computer to

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illustrate a learner's progress as they learn a given material, as taught by Boon. It would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to automatically generate a learning curve plot for a learner in a method similar to that of Hutchins in order to generate the learner's progress in mimicing the model.

10. Claim 132 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fletcher (1992) in view of Boon ('299). Fletcher, as discussed hereinabove, teach all of the limitations of the claims except that a learning curve plot is generated in order to illustrate the ability of the learner to mimic the model. It is well known that learning curve plots may be generated automatically by a computer to illustrate a learner's progress as they learn a given material, as taught by Boon. It would have been obvious to one having ordinary skill in the art at the time Applicant's invention was made to automatically generate a learning curve plot for a learner in a method similar to that of Fletcher in order to generate the learner's progress in mimicing the model.

***Allowable Subject Matter***

11. Claim 125 is allowable over the prior art of record.

12. Claim 26, 28, 133 and 134 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.



13. The following is a statement of reasons for the indication of allowable subject matter:

No prior art of record teach or fairly suggest a method of providing speech therapy where a representation of contact between a lip and tongue is displayed in combination with at least one of a display where contact between the tongue and mouth during speech is represented by a grid of dots on a computer screen where the dots expand and change color corresponding to contact between the tongue and mouth and a measurement of palatometric parameters.

#### ***Response to Arguments***

14. Applicant's arguments filed December 6, 2004 have been fully considered but they are not fully persuasive.

Applicant contends that the Fletcher reference fails to teach or suggest displaying dental landmarks on a computer screen to assist the learner in orienting the position of contact and measuring palatometric parameters of the learner. These arguments are not persuasive. As discussed in detail hereinabove, the Fletcher reference appears to teach that "standard" or "conventional" palatometric displays do not portray intraoral landmarks, but that dental landmarks may in fact be advantageous in assisting the learner to orient the position of target contact patterns. The Fletcher reference also appears to teach that palatometric measurements, as defined in the specification of the present application, may be made as described at pages 198-202.

Applicant further contends that the Fletcher reference fails to teach or suggest automatically generating learning curve plots to illustrate the ability of a learner to mimic the model; displaying a model representation of contact between a model lip and teeth during

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speech; and replaying the recorded position of contact between the learner's tongue and mouth during speech in synchronism with the recorded model representation. These arguments have been fully considered but are moot in view of the new grounds of rejection set forth hereinabove, citing Hutchins and Boon which teach these features.

Applicant contends that supplemental information disclosure statements allegedly filed on October 18, 2002 and May 18, 2004 have not been indicated as considered. An initialed copy of the IDS of May 18, 2004 accompanies this Office Action. The Examiner respectfully contends that there is no record of an IDS filed on October 18, 2002 in application file of the present application.

### ***Conclusion***

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

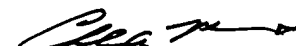
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles A. Marmor, II whose telephone number is (571) 272-4730. The examiner can normally be reached on M-TH (7:00-5:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Max Hindenburg can be reached on (571) 272-4726. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Charles A. Marmor, II  
Primary Examiner  
Art Unit 3736

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February 18, 2005